

Chapter V: Wild and Scenic Rivers

Introduction

In the 1960s, the United States came to recognize that the nation's rivers were being dredged, dammed, diverted, and degraded at an alarming rate. In response, Congress established the Wild and Scenic Rivers Act in October 1968. A Wild and Scenic River is one that has been identified as having distinctively unique or “outstandingly remarkable values” that set it apart from all other rivers, making it worthy of special protection. The goal of designating a river as Wild and Scenic is to preserve its free-flowing character and unique qualities.

The U.S. Congress designated the Tuolumne River a Wild and Scenic River in 1984, and in 1987, the Merced River was designated. These rivers were set aside so that “they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations” (16 USC 1271). This designation gives the Tuolumne and Merced Rivers special protection under the Wild and Scenic Rivers Act and requires the managing agencies to prepare a comprehensive management plan for each river and its immediate environment.

A study of Tuolumne River eligibility under the Wild and Scenic Rivers Act was completed in October 1979. This study recommended segment classifications and inventoried the presence of Outstandingly Remarkable Values (ORVs), by segment. A plan for the Tuolumne River has not been completed.

After reaching a Record of Decision on the Final Environmental Impact Statement, the National Park Service released the *Merced Wild and Scenic River Comprehensive Management Plan* (referred to hereafter as the Merced River Plan) in February 2001, which outlines how the Merced Wild and Scenic River corridor will be managed. The Merced River Plan applies seven management elements to prescribe desired future conditions, typical visitor activities and experiences, and park facilities and management activities that occur in the river corridor. The management elements include boundaries, classifications, Outstandingly Remarkable Values, the Wild and Scenic River Act Section 7 determination process, the River Protection Overlay, management zoning, and the Visitor Experience and Resource Protection framework.

The National Park Service uses the management elements of the Merced River Plan as a set of decision-making criteria with which to evaluate management projects in the Merced River corridor, such as the *Yosemite Fire Management Plan*. This chapter evaluates the consistency of the preferred alternative with the management elements of the Merced River Plan for the Merced River (NPS 2000b) and explains the relationship between the *Yosemite Fire Management Plan* and the Tuolumne River's future comprehensive management plan. Since a comprehensive management plan has not been completed for the Tuolumne Wild and Scenic River, there are no changes to fire management activities in the Tuolumne River corridor. The analysis is limited to existing conditions and treatments and compliance with the Wild and Scenic Rivers Act.

This chapter includes the following sections:

- 1) The Merced Wild and Scenic River

- a. Methodology used for evaluating the consistency of the preferred alternative action with the *Merced Wild and Scenic River Comprehensive Management Plan* management elements
 - b. Analysis of the consistency of the preferred alternative with the *Merced Wild and Scenic River Comprehensive Management Plan* management elements
- 2) Fire management in the Tuolumne River.

The Merced Wild and Scenic River

Methodology

This assessment is based on the management elements developed in the *Merced Wild and Scenic River Comprehensive Management Plan*. For the purposes of this analysis of potential effects on Outstandingly Remarkable Values, the Preferred Alternative is compared to the No Action Alternative (see Chapter 2, Alternatives). The focus of the analysis is on long-term effects (e.g., effects that would last ten years or more or would be permanent). Short-term effects are not addressed in this analysis unless they are of sufficient magnitude (having a substantial, highly noticeable influence) to warrant consideration.

The Preferred Alternative has been assessed with regard to (1) protection and enhancement of ORVs; (2) compatibility with classifications; (3) consistency with the River Protection Overlay; and (4) consistency with management zoning. This Wild and Scenic Rivers Act analysis has been triggered because the proposed project is within Wild and Scenic River boundaries or could affect ORVs outside the boundaries. The Wild and Scenic Rivers Act Section 7 determination process would be applied to any actions that would occur within the bed and banks of a Wild and Scenic River as a result of the *Yosemite Fire Management Plan*.

Protection and Enhancement of Outstandingly Remarkable Values

Pursuant to Section 10(a) of the Wild and Scenic Rivers Act, the Act shall be administered to protect and enhance ORVs within the Wild and Scenic River corridor boundary. Uses that are consistent with this provision and that do not substantially interfere with public enjoyment and use of these values should not be limited (16 USC 1281[a]). ORVs located outside the Wild and Scenic River corridor boundary must also be protected (NPS 2000b).

According to the Wild and Scenic Rivers Act, ORVs must be protected and enhanced. Analysis of ORVs is focused on the whole, rather than site-specific or localized effects. Exceptions to the guideline include site-specific activities that could have substantial effects on ORVs, such as degradation of habitat of a river-related special-status species (a biological ORV) that is endemic to that location. For the *Yosemite Fire Management Plan*, ORVs for the Merced River are evaluated based on effects to such values within all segments of the river.

In terms of evaluating potential effects to ORVs, actions that could degrade ORVs include actions with effects that would be discernable throughout the majority of the river segment, or would be of

sufficient magnitude to affect adjacent segments. For the purposes of this analysis, the following assumptions for each Outstandingly Remarkable Value were made:

Scientific The analysis considers whether the preferred alternative would affect the integrity of the Merced Wild and Scenic River as a scientific resource, or would degrade the river's value for research.

Scenic The analysis considers the specific features that are listed in the scenic ORV, and potential effects to views are analyzed from the perspective of a person situated on the riverbank or on the river.

Geologic Processes/Conditions The analysis gives primary consideration to designated processes, and evidence of those processes (e.g., U-shaped valley, hanging valleys, evidence of glaciations, etc.), that have been responsible for creating the river's geologic landscape. Effects related to natural meandering of the Merced River are addressed in the hydrologic processes ORV.

Recreation The analysis considers whether opportunities to experience a spectrum of river-related recreational activities would be affected.

Biological The analysis focuses on effects to riparian areas, wetlands, low-elevation meadows, and other riverine areas that provide rich habitat for a diversity of river-related species.

Cultural The analysis considers effects to river-related cultural resources, including archeological sites, which provide evidence of thousands of years of human occupation, and continuing traditional use today. The analysis also considers effects on nationally significant historic resources, such as designed landscapes and developed areas, historic buildings, and circulation systems (trails, roads, and bridges) that provide visitor access to the sublime views of natural features that are culturally valuable.

Hydrologic Processes Consideration is primarily given to designated processes such as river meandering, world-renowned waterfalls, an active flood regime, oxbows, and fluvial processes. Effects to wetlands are addressed in the biological ORV.

It is possible for ORVs to be in conflict with each other, or for an action to have beneficial impacts with regard to one ORV and adverse impacts with regard to other ORVs. The *Merced Wild and Scenic River Comprehensive Management Plan* recognizes this possibility. It states:

Actions must protect all Outstandingly Remarkable Values, regardless of where they are located. When Outstandingly Remarkable Values lie within the boundary of the Wild and Scenic River, the value must be protected and enhanced. When values are in conflict with each other, the net effect to Outstandingly Remarkable Values must be beneficial. (p. 32)

The Wild and Scenic Rivers Act stipulates that agencies are given discretion to manage a river system with “varying degrees of intensity for its protection and development, based on the special attributes of the area.” For example, there may be conflicts between protecting cultural resources and hydrologic processes, as is the case with a historic bridge that constricts the flow of the river. In this analysis, ORVs were evaluated separately for Wilderness segments and non-Wilderness segments due to the different methods employed by the preferred alternative for each.

Compatibility with Classifications

The actions in the *Yosemite Fire Management Plan* were assessed for its compatibility with the Wild and Scenic Rivers classifications.

Consistency with the River Protection Overlay

The *Yosemite Fire Management Plan* was assessed for its consistency with the River Protection Overlay prescriptions

Consistency with Management Zoning

The *Yosemite Fire Management Plan* was assessed for its consistency with the *Merced River Plan* management zoning and corresponding zoning prescriptions. The *Yosemite Fire Management Plan* encompasses all management zones

Wild and Scenic Rivers Act Section 7 Determination Process.

Pursuant to the Wild and Scenic Rivers Act, the National Park Service must carry out a Section 7 determination on all proposed water resources projects¹. The fire management program is not a water resources project. The proposed helibase at El Portal would not be located within the bed and banks of the river, and thus would not be considered a water resources project subject to Section 7 determination.

Analysis of Consistency

Outstandingly Remarkable Values

The preferred alternative would restore fire to park ecosystems and management of hazardous levels of vegetative fuels. The proposed alternative would use prescribed and managed wildland fire throughout the park as well as mechanical methods to reduce forest fuels in developed areas at a rate needed for ecosystem maintenance and restoration. The effects of the preferred alternative are summarized below and discussed in further detail in the following tables.

The conditions achieved by the preferred alternative would protect and enhance the scientific ORV by maintaining or returning the various vegetation types to their natural range of variability and reduce the threat of large, high intensity wildland fire.

Fire management activities would affect scenic resources in generally beneficial ways, through actions that would contribute to restoring and maintaining open vistas and natural forest structure.

The preferred alternative would have no effect on the geologic processes/conditions ORV.

¹ Water Resources Projects: Any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the Federal Power Act, or other construction of developments that would affect the free-flowing characteristics of a wild and scenic or congressionally authorized study river. In addition to projects licensed by the Federal Energy Regulatory Commission, water resources projects may also include: dams; water diversion projects; fisheries habitat and watershed restoration/enhancement projects; bridges and other roadway construction/reconstruction projects; bank stabilization projects; channelization projects; levee construction; recreation facilities such as boat ramps and fishing piers; and, activities that require a 404 permit from the U.S. Army Corps of Engineers.

With the potential for large, catastrophic fires, reduced under the preferred alternative, the likelihood of park closures and impacts upon all park visitors would be reduced. The preferred alternative would greatly reduce the potential for fire-related park closures. While local closures and restrictions could cause changes in trip itineraries the spectrum of recreational opportunities would not be diminished. The restoration and maintenance of open vistas and natural forest structure and a lower probability of large, high intensity, catastrophic fires would protect and enhance the recreation ORV.

By reducing the threat of catastrophic fire and restoring and maintaining the natural fire regime, the biological ORV would be improved protecting and enhancing river related wildlife, habitat and special status-species.

Restoring the natural fire regime to culturally important areas will enhance the historic value that may have been degraded by previous fire suppression activities. Overall, the effect of the preferred alternative would protect and enhance the cultural ORV by reducing the risk of catastrophic fire through the treatments in the preferred alternative.

The preferred alternative would produce long-term protection and enhancement to the hydrologic process ORV. This is based upon a combination of beneficial, long-term, moderate to major impacts in Fire Use Unit. Large, high-severity fires would likely occur during the life of the plan, but the treatments proposed would reduce their effects upon soils and watersheds. The potential for catastrophic fire would still exist, but the intent of the alternative would be to reduce the risk, thus protecting the excellent water quality.

The preferred alternative would have no effect on river gradient drops, natural conditions, such as glacial remnants or the numerous cascades.

Table V-1

Effects of the Preferred alternative on ORVs in the Wilderness Segments of the Merced Wild and Scenic River Corridor

Outstandingly Remarkable Value	Effects of the Preferred alternative
<i>Scientific</i> – The entire river corridor constitutes a highly significant scientific resource because the river watershed is largely within designated Wilderness in Yosemite National Park. Scientific ORVs relate to the Merced River's value for research. This ORV applies to all the Merced River segments.	The conditions achieved by the preferred alternative would protect and enhance the scientific ORV by maintaining or returning the various vegetation types to their natural range of variability and reduce the threat of large, high intensity wildfire. The preferred alternative could have a beneficial effect on the Scientific ORV.
<i>Scenic</i> – This segment includes views from the river and its banks of the glaciated river canyon, exposed bedrock riverbed, of unique river features, including large pothole pools within slick rock cascades, old growth forest, and meadows. This segment includes views from the river and its banks of Merced Lake and Washburn Lake, the Bunnell Cascades, the confluence of tributaries, a large concentration of granite domes, and the Clark and Cathedral Ranges.	Fire management activities would affect scenic resources in generally beneficial ways, through actions that would contribute to restoring and maintaining open vistas and natural forest structure. Under the preferred alternative, there would be a lower probability of large, high intensity, catastrophic fires with effects to the Scenic ORV as major as the A-Rock Fire, than under No Action. Although air emissions (smoke) will be greater than under No Action and consequently affect the scenic ORV, the impact will be short term and the actions would overall enhance the Scenic ORV over the long term.
<i>Geologic Processes/Conditions</i> – The Wilderness segments traverse a U-shaped, glacially carved canyon separated by cascades and soda springs below Washburn Lake, glaciated valleys in the high country and V-shaped canyons above Wawona. Moraine meadows and soda springs above Gravelly Ford are also unique, river-related geologic features.	The preferred alternative would have no effect on the geologic processes/conditions ORV. Fire management activities would not affect the classic U-shaped valley, V-shaped canyons, or evidence of glaciation.
<i>Recreation</i> – The Wilderness segments provide outstanding opportunities for solitude along the river, with primitive and unconfined recreation. There is a spectrum of levels of recreational use. River-related recreational opportunities include day hiking, backpacking, horseback riding and packing, camping, and enjoyment of natural river sounds. Untrailed tributaries provide enhanced opportunities for solitude.	With the potential for large, catastrophic fires like the A-Rock Fire, reduced under the preferred alternative, the likelihood of park closures and impacts upon all park visitors would be reduced. The preferred alternative would greatly reduce the potential for fire-related park closures, although, during fires, closures in areas of the park would continue. During these closures, only the visitors within or wishing to enter that portion of the park would be affected. Some visitors would be redirected to other parts of the park during closures. While local closures and restrictions could cause changes in trip itineraries the spectrum of recreational opportunities would not be diminished. The restoration and maintenance of open vistas and natural forest structure and a lower probability of large, high intensity, catastrophic fires would protect and enhance the Recreation ORV in the Wilderness segments.
<i>Biological</i> – The Wilderness segments include a nearly full range of intact Sierran riverine environments, high quality riparian, meadow, and aquatic habitats (such as the meadow at Washburn Lake), and special-status species such as mountain yellow-legged frog and Yosemite Toad.	The preferred alternative would likely produce conditions that would protect and enhance the Biological ORV through the reduction of catastrophic fire threat. The multi strategy approach would also provide additional options for wetlands avoidance. By reducing the threat of catastrophic fire and restoring and maintaining the natural fire regime, wildlife habitat would be improved protecting and enhancing river related wildlife and special status-species.
<i>Cultural</i> – The Wilderness segments include portions of a prehistoric trans-Sierra route in use for thousands of years and many prehistoric sites. There are many historic resources such as homestead sites, trails, river crossings, High Sierra Camp sites, structures and reflects historic stock use and cavalry activities.	Implementation of the preferred alternative would reduce to a moderate extent the potential for catastrophic fire and its impacts. Of all fire management situations and treatments, catastrophic fire and emergency response actions result in the most frequent and severe impacts to archeological resources. Overall, the effect of the preferred alternative would protect the Cultural ORV by reducing the risk of catastrophic fire.

Outstandingly Remarkable Value	Effects of the Preferred alternative
<p><i>Hydrologic Processes</i> – The Wilderness segments are characterized by a free-flowing river and excellent water quality. The river gradient drops from 13,000 to 6,000 feet in elevation. There are examples of natural conditions, including glacial remnants, a logjam in Little Yosemite Valley that is hundreds of years old, and numerous cascades.</p>	<p>The preferred alternative would produce long-term protection and enhancement. This is based upon a combination of beneficial, long-term, moderate to major impacts in fire management units. Large, high-severity fires would likely occur during the life of the plan, but the treatments proposed would reduce their effects upon soils and watersheds, including the potential for adverse effects upon peak flow and sediment yield. Restoration of natural forest structure over time would produce positive effects regarding water yield, nutrient yield and stream system response. The potential for catastrophic fire would still exist, but the intent of the alternative would be to reduce the risk, thus protecting the excellent water quality and the Hydrologic Process ORV.</p> <p>The preferred alternative would have no effect on river gradient drops, natural conditions, such as glacial remnants or the numerous cascades.</p>

Table V-2

Effects of the Preferred alternative on ORVs in the Non-Wilderness Segments of the Merced Wild and Scenic River Corridor

Outstandingly Remarkable Value	Effects of the Preferred Alternative
<i>Scientific</i> – The entire river corridor constitutes a highly significant scientific resource because the river watershed is largely within designated Wilderness in Yosemite National Park. Scientific ORVs relate to the Merced River’s value for research. This ORV applies to all the Merced River segments.	The conditions achieved by the preferred alternative would protect and enhance the scientific ORV by maintaining or returning the various vegetation types to their natural range of variability and reduce the threat of large, high intensity wildfire. The preferred alternative could have a beneficial effect on the Scientific ORV.
<i>Scenic</i> – These segments provide magnificent views from the river and its banks of waterfalls (Nevada, Vernal, Illilouette, Yosemite, Sentinel, Ribbon, Bridalveil, Silver Strand, Wildcat, and Tamarack Creek Fall), rock cliffs (Half Dome, North Dome/Washington Column, Glacier Point, Yosemite Point/Lost Arrow Spire, Sentinel Rock, Three Brothers, Cathedral Rock, El Capitan, the Rostrum, Elephant Rock and Wawona Dome), meadows (Stoneman, Ahwahnee, Cook’s, Sentinel, Leidig, El Capitan, and Bridalveil) the Cascades, spectacular rapids among giant boulders and continual white-water cascades in the deep and narrow river canyon in a untrailed, undisturbed environment below Wawona. There is a scenic interface of river, rock, meadow, and forest throughout the segments.	Fire management activities would affect scenic resources in generally beneficial ways, through actions that would contribute to restoring and maintaining open vistas and natural forest structure. Under the preferred alternative, there would be a lower probability of large, high intensity, catastrophic fires with effects to the Scenic ORV as major as the A-Rock Fire, than under No Action. Although air emissions (smoke) will be greater than under No Action and consequently affect the scenic ORV, the impact will be short term and the actions would overall enhance the Scenic ORV over the long term.
<i>Geologic Processes/Conditions</i> – These segments contains a classic, glaciated, U-shaped valley, providing important examples of a mature meandering river; hanging valleys such as Yosemite and Bridalveil Creeks; and evidence of glaciation (e.g., moraines below El Capitan and Bridalveil Meadows). Dramatic transition from the U-shaped, glaciated Yosemite Valley to the V-shaped river gorge with a continuous steep gradient and a transition from igneous to metasedimentary rocks (metasedimentary rocks are among the oldest in the Sierra Nevada).	The preferred alternative would have no effect on the geologic processes/conditions ORV. It would not affect the classic U-shaped valley, hanging valleys, or evidence of glaciation, mature meandering river, transition from the U-shaped to the V-shaped river gorge or transition from igneous to metasedimentary rocks.
<i>Recreation</i> – These segments offer opportunities to experience a spectrum of river-related recreational activities, from nature study and sightseeing to hiking. Yosemite Valley is one of the premier outdoor recreation areas in the world. Other segments provide a range of river-related recreational opportunities, in particular white-water rafting and kayaking (class III to V), fishing, outstanding opportunities for river-related solitude, enjoyment of natural river sounds, and primitive and unconfined recreation in an untrailed, undisturbed environment.	With the preferred alternative’s reduction in the potential for large, catastrophic fire, the likelihood of park closures and impacts on park visitors would be reduced. The preferred alternative would greatly reduce the potential for fire-related park closures, although, during fires, closures in areas of the park would continue. During these closures, only the visitors within or wishing to enter that portion of the park would be affected. Some visitors would be redirected to other parts of the park during closures. While local closures and restrictions could cause changes in trip itineraries the spectrum of recreational opportunities would not be diminished. The restoration and maintenance of open vistas and natural forest structure and a lower probability of catastrophic fires would protect and enhance the Recreation ORV in non-Wilderness segments.
<i>Biological</i> – Riparian areas and low-elevation meadows are the most productive communities in Yosemite Valley. The high-quality, vast riparian, wetland, and other riverine areas provide rich habitat for a diversity of river-related species, including special-status species, neotropical migrant songbirds, and numerous bat species. Other segments are characterized by diverse riparian areas and associated special-status species that are largely intact and almost entirely undisturbed by humans, riverine habitats such as riparian woodlands and associated federal and state special-status species, including Tompkin’s sedge, Willow flycatcher and Valley elderberry longhorn beetle and its critical habitat (elderberry shrub).	The preferred alternative would likely produce conditions that would protect and enhance the Biological ORV through the reduction of catastrophic fire threat. The preferred alternative also would somewhat improve riparian, wetland, and other riverine areas that provide rich habitat for a diversity of river-related species, including special status species. The multi strategy approach would also provide additional options for wetlands avoidance. By reducing the threat of catastrophic fire and restoring and maintaining the natural fire regime, wildlife habitat would be improved protecting and enhancing river related wildlife and special status-species.

Outstandingly Remarkable Value	Effects of the Preferred Alternative
<p><i>Cultural</i> – The Yosemite Valley segment contains evidence of thousands of years of human occupation, reflected in the large number of archeological sites and continuing traditional use today. Nationally significant historic resources are found here, such as designed landscapes and developed areas, historic buildings, and circulation systems (trails, roads, and bridges) that provide visitor access to the sublime views of natural features that are culturally valuable. Other segments contain cultural resources, including prehistoric sites and historic sites, some of the oldest archeological sites in the Yosemite area as well as many historic Indian villages and traditional gathering places. River-related historic resources include structures related to early tourism and industrial development such as those relating to historic engineering projects and early Army and National Park Service administration, and homesteading.</p>	<p>Implementation of the preferred alternative would reduce to a moderate extent the potential for catastrophic fire and its impacts. Of all fire management situations and treatments, catastrophic fire and emergency response actions result in the most frequent and severe impacts to archeological resources. Restoring the natural fire regime to culturally important areas will enhance the historic value that may have been degraded by previous fire suppression activities. Overall, the effect of the preferred alternative would protect and enhance the Cultural ORV by reducing the risk of catastrophic fire through the treatments in the preferred alternative.</p>
<p><i>Hydrologic Processes</i> – These segments are characterized by a meandering river, world-renowned waterfalls, an active flood regime, oxbows, unique wetlands, and fluvial processes, exceptionally steep gradients, continuous rapids, excellent water quality, and continual white-water cascades.</p>	<p>The preferred alternative would produce long-term protection and enhancement. This is based upon a combination of beneficial, long-term, moderate to major impacts in fire management units. Large, high-severity fires would likely occur during the life of the plan, but the treatments proposed would reduce their effects upon soils and watersheds, including the potential for adverse effects upon peak flow and sediment yield. Restoration of natural forest structure over time would produce positive effects regarding water yield, nutrient yield, and stream system response. The potential for catastrophic fire would still exist, but the intent of the alternative would be to reduce the risk, thus protecting the excellent water quality and the Hydrologic Process ORV.</p> <p>The preferred alternative would have no effect on the numerous cascades, steep gradients, or continuous white-water rapids.</p>

Relationship to the Merced Wild and Scenic River Boundary

Elements of the preferred alternative would occur within the Merced Wild and Scenic River Boundary and in all segments of the corridor.

Classifications

The preferred alternative would not change the classifications in any segment of the Merced River and is compatible with all classifications.

River Protection Overlay

Since one of the purposes of the River Protection Overlay is to protect and restore hydrologic processes and biotic habitats within the river corridor, the restoration and maintenance of the natural fire regime in the preferred alternative would be consistent with the River Protection Overlay.

The new Helibase in El Portal would be located within the River Protection Overlay. Based upon the River Protection Overlay prescriptions, essential facilities are allowed within it. The El Portal Helibase would be located on Foresta Road between the Merced River and the El Portal Sewage Treatment Facility. It would provide a safe and essential need for this community. The proposed improvements will better provide for public and pilot safety. Presently, lack of a suitable location often results in the use of Highway 140 or the schoolyard at the El Portal Elementary School. Both of these sites have serious safety risks associated with landing helicopters due to power lines and exposure to residents and the public.

Improvements consist of installing one gate to restrict traffic and use of the existing road. The existing road apron would be widened and additional asphalt would be laid to widen the road where the two 50' x 50' helipads would be installed. An asphalt spill abatement berm along the grouted rip-rap bank on the riverside of the road would be installed as well. This action would be consistent with the River Protection Overlay prescriptions which state when site-specific prescribed fire plans are done for wildland/urban interface areas those actions would also comply with River Protection Overlay prescriptions where applicable.

Management Zoning

The Preferred Alternative of the Final Yosemite Fire Management Plan/EIS encompasses and includes actions in all management zones. The restoration and maintenance of the natural fire regime in the Preferred Alternative would be consistent with all zoning on the Merced River.

The new Helibase in El Portal would be located in the Park Operations and Administration zone. The purpose of the Developed zones is to direct high-impact activities and facilities to areas better able to withstand heavy use and/or already developed locations in order to further protect and enhance ORVs in other parts of the corridor. The facilities allowed for in the Developed Zones, such as operational facilities like the Helibase, are necessary to properly accommodate park visitors, many of whom are coming to experience the scenic, recreational, and other ORVs of the Merced Wild and Scenic River. Neither the Helibase at Crane Flat or Wawona are located within the boundaries of the Merced Wild and Scenic River and are thus not subject to its management zoning.

Fire Management in the Tuolumne River Corridor

Compared to the 1990 *Yosemite Fire Management Plan*, the *Yosemite Fire Management Plan/Environmental Impact Statement* prescribes no changes to the fire management program along the Tuolumne Wild and Scenic River corridor, or within the watershed upstream or upslope of segments designated under the Wild and Scenic Rivers Act (map 5-1).

At this time, a management plan for the portions of the Tuolumne Wild and Scenic River which flows within Yosemite National Park has not been finalized and boundaries and specific ORVs have not been defined. The *Final Environmental Impact Statement and Study Report, Tuolumne Wild and Scenic River*, was completed in October 1979 (henceforth the Tuolumne Final Study). The Final Study looked at the segments of the river administered by Yosemite National Park and Stanislaus National Forest and identified nine ORVs for the river. Four study segments of the river fall within Yosemite National Park. The ORVs and the study segments flowing within Yosemite are shown in table 5.3.

Table V-3
Tuolumne River Outstandingly Remarkable Values (Final Study 1979)

Outstandingly Remarkable Values	Segment 1: Dana Fork, source to Tuolumne Meadows	Segment 2: Lyell Fork, source to Tuolumne Meadows	Segment 3: Tuolumne Meadows to Hetch Hetchy (max. pool)	Segment 5: O'Shaughnessy Dam to Early Intake
Scenic	Yes	Yes	Yes	Yes
Recreation	Yes	Yes	Yes	Yes
Geologic	Yes	Yes	Yes	Yes
Fishery	No	No	Yes	No
Wildlife	Yes	Yes	Yes	Yes
Historic/Cultural	Yes	Yes	Yes	Yes
Whitewater Boating	No	No	No	No
Scientific/Educational	Yes	Yes	Yes	Yes
Wilderness Characteristics	No	Yes	Yes	No

* Segment 4 was Hetch Hetchy Reservoir, which was not included in the Wild and Scenic River legislation.

The 1979 Final Study also recommended boundaries as ¼ mile either side of the ordinary high-water mark, which would total 320 acres per mile, the maximum allowed under the Wild and Scenic Rivers Act. The Tuolumne River is very different than the Merced River in that the only development existing along the designated sections of the river is at Tuolumne Meadows, which is a historic staging area for recreation and a trailhead, and just below the O'Shaughnessy Dam. Additionally, much of the Dana Fork runs next to Tioga Road. The segment of river that is impounded from O'Shaughnessy Dam to the high-water mark of the reservoir did not qualify for designation under the Wild and Scenic Rivers Act.

In the absence of an approved Tuolumne Wild and Scenic River comprehensive management plan, there are no changes to current management proposed in the Tuolumne River corridor and the parts of the watershed upstream and upslope of the designated river segments. Existing management that was approved in the 1987 *Fire Management Plan* and revised in the approved 1990 *Yosemite Fire Management Plan* designates the entire area above Hetch Hetchy Reservoir as part of the Fire Use Unit (using terminology consistent with revised National Park Service fire management policy and guidelines). Exceptions are Pate Valley and Tuolumne Meadows (both of

which are discussed below). These two areas, because of values that require protection from wildland fire were designated as fire suppression areas in the 1990 plan.

Fire Management and the Tuolumne Wild and Scenic River

The most recent fire management plan for Yosemite was completed in 1990, in response to changes made to National Park Service fire management programs following the Yellowstone fires of 1988; before that the *Final Yosemite Fire Management Plan* had been most recently revised in 1987. Although a number of changes in zoning and fire management treatments are proposed in this (2002) revision of the *Yosemite Fire Management Plan*, none are proposed for areas along the Tuolumne Wild and Scenic River. Because of the lack of a completed Tuolumne River comprehensive management plan, the *Yosemite Fire Management Plan/Environmental Impact Statement* proposes no changes to zoning or treatments that would affect the Tuolumne Wild and Scenic River corridor or the portions of the watershed upstream or upslope of designated segments of the Tuolumne Wild and Scenic River in Yosemite National Park. Fire management in this watershed would remain status quo (as described in the 1990 *Yosemite Fire Management Plan*) until a comprehensive management plan for the river is completed.

Maintaining the present strategy is not only suitable but it better protects ORVs than if the park were to revert to “suppression only” which would be required, by policy, for areas without a fire management plan. The current management strategy works well until a comprehensive management plan for the Tuolumne Wild and Scenic River is completed that could make provisions for change that might be necessary to further protect and enhance ORVs. Although the action alternatives include a number of changes to fire and fuel management programs, these are mainly additional types of treatments that will help protect the wildland/urban interface, especially in high population areas like Wawona and Yosemite Valley. No changes in wildland/urban interface treatment are needed in the Tuolumne Meadows area because this area has not been greatly altered by past fire suppression activities (in stark contrast to lower elevation wildland/urban interface areas of Wawona, Crane Flat, and Yosemite Valley, for example).

There will be no changes in treatments within the Tuolumne Wild and Scenic River watershed (map 5-1). Tuolumne Meadows and the areas below O’Shaughnessy Dam would continue to be in the Suppression Unit, and no change in treatments from those done under the 1990 plan is proposed there. Analysis shows that much of this area is within the natural range of variability.

An examination of the Maximum Fire Return Interval Departure Map (map 2-5) helps to illustrate this point. Most of the Tuolumne River watershed is shown as having missed no fires (i.e., zero fire return interval departure), while the areas with the greatest departure are clustered along the west and southwest boundaries, between the South Entrance and Crane Flat (mostly in the Merced River watershed). Much of the Tuolumne watershed is high elevation country where forests are broken up by many rock outcroppings. Plant communities are characterized by long fire return intervals so they do not experience fire as often as low elevation forests to the west. The low-elevation area within the Tuolumne watershed, below O’Shaughnessy Dam, was burned in 1996 and is in a semi-restored condition at this time. In general, fire management staff believes that the current treatments used along the Tuolumne Wild and Scenic River corridor are effectively restoring and maintaining these areas.

Clarifications of Zoning in the 1990 Plan and the Proposed Revision

Tuolumne Meadows Suppression Unit. In the 1990 *Fire Management Plan/Environmental Assessment*, the Tuolumne Meadows Suppression Zone originally identified was loosely delineated

on maps and never clearly described within the text. Managers have had to make case-by-case decisions relating to fire in this area and often the factors that most influenced the decision related to: time of year, potential fire behavior, and location of the ignition. In this revision of the *Yosemite Fire Management Plan*, the boundary for the area of Tuolumne Meadow that is in the Suppression Unit is clearly defined. It follows the Wilderness boundary. The final plan will include a narrative description of the entire Suppression Unit so that management direction is unambiguous. Thus, the identification of the Suppression Unit around Tuolumne Meadow has been redefined to eliminate uncertainties.

Pate Valley. The 1990 *Yosemite Fire Management Plan* shows Pate Valley in the Suppression Zone as a Prescribed Burn Block, because of cultural resources and traditional cultural values in the area. Through collaboration with American Indian tribes, it was decided to treat parts of this area with prescribed fire in 1993 and 1994 to reduce the risk of damage to cultural resources. Following consultation with American Indian tribes in 1999, a managed wildland fire was allowed into Pate Valley in accordance with the 1990 Plan, which states:

“... prescribed burn units are designated within the suppression zone [Zone III] and Zone II (conditional zone). In these units, fires will be ignited by management under specified weather, fuel moisture, and fire behavior parameters to restore fuel loadings and forest structure within the natural range of variability. Once this is accomplished most of these units will be incorporated within the year-round prescribed natural fire management Zone I.”

Prior to starting this revision to the *Yosemite Fire Management Plan*, Pate Valley was already being managed as part of the prescribed natural fire zone (equivalent to the Fire Use Unit in this revision) consistent with the provisions of the 1990 plan, as was an area near Merced Lake High Sierra Camp. This revision of the *Yosemite Fire Management Plan* shows Pate Valley as being in the Fire Use Unit as well, but continuing to be a Prescribed Fire Unit so that periodic maintenance of vegetation around the high value areas can be completed. Consultation with American Indian tribes has become a standard procedure for all prescribed burning in Yosemite and managed wildland fires where cultural concerns exist.

Changes in Unit Designations that would not affect the Tuolumne Wild and Scenic River Corridor in Yosemite

The south shore of Hetch Hetchy Reservoir was in the Conditional Zone in the 1990 plan. In accordance with the new national policy, only two units, a Fire Use and a Suppression Unit, are proposed for the revised plan. The area south of Hetch Hetchy Reservoir would be divided between these two units. Hetch Hetchy Reservoir was ineligible for inclusion in the Wild and Scenic River system, and these effects do not represent a program change with respect to the Tuolumne Wild and Scenic River. These changes are not in the immediate watershed of the main fork of the river but are in the immediate watershed of the Middle Fork, which was not part of the designation. These changes are a result of policy changes, which call for the use of an *appropriate management response* for all fires. Continued establishment of fire management units is still directed under policy but adoption of the appropriate management response strategy makes the use of a conditional zone irrelevant as fire may be either managed or suppressed within the fire use unit. Within the Suppression Unit, fire must be suppressed.

Mid-elevation wildland/urban interface areas in the Suppression Unit, including Hodgdon Meadows and areas along the Crane Flat Road have been adversely affected by past fire suppression activities. Fuels in these areas need to be reduced by hand or machine as described in

the action alternatives (table 2.6). These areas also are within the portions of the watershed drained by the Middle Fork and South Fork of the Tuolumne River, which enter the Tuolumne River downstream of the park boundary. The potential effects of these changes will be evaluated in terms of the ORVs identified by the U.S. Forest Service in its management plan for the segments of the Tuolumne Wild and Scenic River under their jurisdiction. The Middle Fork and South Fork were not included in the 1979 Final Study for the Tuolumne Wild and Scenic River.

Effects of Yosemite Fire Management on the Tuolumne Wild and Scenic River Segments Managed by Stanislaus National Forest (USFS)

The Tuolumne Wild and Scenic River, downstream of Yosemite National Park, could be potentially affected by fire management activities in the watersheds of the Middle and South Forks of the Tuolumne. Big Oak Flat and Hodgdon Meadows are in the South Fork watershed and the Suppression Unit. White Wolf is in the Middle Fork and is in a small piece of the Suppression Unit, completely surrounded by Fire Use Unit. Big Oak Flat Road and Tioga Road move through both the South and Middle Fork watersheds. Wildland/urban interface treatments are proposed for Big Oak Flat, Hodgdon Meadow, and White Wolf.

Stanislaus National Forest was consulted to assess the potential for protecting and enhancing ORVs along the segments of the Tuolumne River downstream of the South Fork/Main Stem confluence, which the U.S. Forest Service manages. Downstream of the confluence, the Tuolumne River segments are: 'Scenic,' in the Lumsden Bridge area; and 'Wild,' along the fifteen mile segment downstream to Lake Don Pedro. Both of these segments were evaluated as parts of Segment 7 in the Tuolumne Final Study, which documented the presence of scenic, recreation, geologic, fishery, wildlife, historic/cultural, white water boating and scientific/educational ORVs.

The following assessments were completed after consulting with Stanislaus National Forest:

Scenic Fire management activities along the South and Middle Forks of the Tuolumne, inside Yosemite National Park, would not affect the potential to preserve and enhance the scenic ORVs along this segment.

Recreation It is unlikely that activities in the park would affect the range of recreational uses downstream of the confluence with the mainstem Tuolumne. It is unlikely that there would be noticeable effects. Although catastrophic fire has the potential to cause a pulse of sediment that could affect stream system responses in the downstream portions of the watershed (potentially affecting navigable channels, camping beaches, put ins and takeouts), the preferred alternative is intended to return the vegetation of the upper watersheds to its natural range of variability. This would work to maintain rather than disrupt these attributes, thus protecting and enhancing the recreation ORV.

Geologic The major geologic values in these segments are the steep-walled V-shaped canyons, and the metasedimentary rocks of the Calaveras formation. The proposed fire management actions would not affect the potential to protect and enhance these ORVs.

Fishery The lower segments of the Tuolumne support a high quality trout fishery. Fire, if catastrophic, can increase sediment and nutrient loading, which can negatively affect a trout fishery. However, the purpose of the fire management actions is to return the vegetation of the upper parts of the South and Middle Fork watersheds to within its natural range of variability. Typical fires would exhibit variable fire intensities throughout a watershed. Additionally, a typical fire would burn only portions of a watershed, or portions of a slope, thereby limiting the potential

for increases in sediment and nutrient loading. It was noted during the consultation that 150,000 acres of the Tuolumne River watershed have burned in recent years [the Ackerson Fire in 1996 (in the upper Tuolumne) and the Stanislaus Complex Fire in 1987 (in the lower Tuolumne watershed)]. No deleterious effects upon the fishery were identified after either fire. This is the nature of the Tuolumne River watershed, which burns regularly. There would be no likely affect on potential to protect and enhance the ORV.

Wildlife Deer use the Tuolumne River canyon to travel between Yosemite National Park and Stanislaus National Forest. Wildland fire and the actions to restore the system to within its natural range of variability would protect and enhance deer habitat. Red-legged frog now has critical habitat along the main stem of the Tuolumne River below 5,000 ft. elevation; this does not include the South and Middle Forks. The U.S. Forest Service is protecting critical habitat along the main stem by protecting riparian habitat and managing activities at river crossings. Stream system responses along downstream segments could be altered by catastrophic fire in upper portions of the watershed, but the proposed actions are intended to return these areas to within their natural range of variability. This would reduce the potential for adverse effects upon peak flow and sediment yield, producing positive effects regarding water yield, nutrient yield, and stream system response. Thus, riparian areas would be protected. This ORV would be protected and enhanced by the fire management actions.

Historic/Cultural The actions would have similar effects on cultural and historic resources as those outlined in Chapter 4.

White Water Boating Fire management actions in Yosemite National Park would not effect the quality of white water boating, with the possible exception of an increase in water yield, as a result of bringing the system back to within its natural range of variability. This would be a benefit to this ORV. Some loss of scenic resources may occur during periods of smoke from wildland and prescribed fires.

Scientific/Educational Fire management actions would have little or no negative effect on the scientific/educational ORV. The restoration and maintenance of more natural ecosystems due to wildland fire use and prescribed fire will increase the scientific and educational ORV.

Management of Tuolumne Wild and Scenic River by Yosemite National Park

Despite the fact that the National Park Service has not fulfilled the requirement to complete a comprehensive management plan for the Tuolumne Wild and Scenic River, the National Park Service is continuing to manage the Tuolumne River, as part of carrying out the agency's mission. The National Park Service is already managing Yosemite National Park, including the Yosemite's designated Wilderness. The *Yosemite Wilderness Management Plan* addresses management of all of the Tuolumne River in Yosemite National Park, except Tuolumne Meadows, as specified in a Federal Register notice in September 1986.

Because legislation for the Tuolumne Wild and Scenic River does not specify that the agency do otherwise (see the Wild and Scenic Rivers Act), when a management plan for the Tuolumne River is completed, the protection of ORVs under that plan will be consistent with National Park Service efforts to protect Yosemite National Park and Yosemite Wilderness values. The agency will continue to protect these values, which were and are the foundations under which the 1990 *Yosemite Fire Management Plan* and its predecessors were developed.

National Park Service policy requires that, in the absence of a fire management plan, all fires be suppressed. The impacts of fire suppression activities and a program reversal that would result in ecosystem degradation because of fire suppression activities, would be inconsistent with managing, preserving, and enhancing the resources and values of Yosemite National Park, Yosemite Wilderness, and the Tuolumne Wild and Scenic River.

In the future, any proposed changes to the fire management program in and along the Tuolumne Wild and Scenic River, for whatever reason, would only be considered once a plan for the Tuolumne Wild and Scenic River has been completed. The plan would consider ways in which wildland fire can further enhance and protect ORVs. Until that time the fire management strategies identified in the 1990 Fire Management Plan would remain in effect for the Tuolumne Wild and Scenic River watershed (map 5-1).